

We Claim:

1. An isolated nucleotide sequence which is selected from the

group

| | | | | | |
|-------------|------------|-------------|-------------|-------------|------|
| AAATTGCTTT | GCAGTGAAT | CCTGCTCAT | GTTAGCAGAA | AACAACATCA | 50 |
| TGGGTAACTC | TGAAGCTTTT | GTCAAAGCTT | CTACTGATTC | TAATTTCAAG | 100 |
| CTGAGGCTCT | GGCTAAGGGT | TCCAAAGGTT | TTGAAGCAGA | TTTCCATTCA | 150 |
| GAAATTGTTT | AAGGTTGGAG | GAGATGAAAC | AAATAAAACA | TTTTATTAT | 200 |
| CTATTGCGTG | CATTGCAAAG | CATAACAGTG | TTGAGACAGC | TTTAAACATT | 250 |
| ACTGTTATTT | GCAAGCATCA | GCTOCCAATT | CGTAAATGTA | AAACTOCTTT | 300 |
| TGAATTATCA | ATGATGTTTT | CTGATTTAAA | GGAGCCTTAC | AACATTATTC | 350 |
| ATGATGCTTC | ATATCCCGAA | AGGATTGTTT | ATGCTCTGCT | TGAAACTCAC | 400 |
| ACATGTTTTC | CACAAGTTCT | TTGCAACAAC | TTGCAAGAAG | ATGTGATCAT | 450 |
| CTACAGCTTG | AACAACCATG | AGCTAACCTC | TGGAAAGTTA | GATTTAGGTG | 500 |
| AAATAAGTTT | GAATTACAA | GAAGACGCCT | ACAAAAGGAA | ATATTTCCTT | 550 |
| TCAAAAACAC | TTGAATGTC | TCCATCTAAC | ATACAAACTA | TGCTTTATTT | 600 |
| AGACAGCATC | CAAATCCCTT | CCTGGAAGAT | AGACTTTGCC | AGGGGAGAAA | 650 |
| TTAAAAATTC | TCCACAATCT | ATTTTCACTG | CAAAATCTTT | GTAAATCTTT | 700 |
| GATTTAAGCG | GGATTAAAAA | GAAAGAATCT | AAGATTAAAG | AAGCATATGC | 750 |
| TTTCAAGATCA | AAATGATCTT | GCTGCTGCTA | GCTTTTCTTA | ATTATGTTAT | 800 |
| GTTTATTTTC | TTTCTTTACT | TATAATTTAT | TTTCTGTTTG | TCATTCTTTT | 850 |
| CAAATTCTCT | CTGTCTAGTA | GAAACCATAA | AAACAAAAAT | AAAAATAAAA | 900 |
| TAAATCAAAA | ATAAAATAAA | AATCAAAAAA | TGAAATAAAA | GCAACAAAAA | 950 |
| AATTAAAAAA | CAAAAAACCA | AAAAAGATCC | CGAAAGGACA | ATTTTGGCCA | 1000 |
| AAATTGGGGT | TTGTTTTTGT | TTTTTGTGTT | TTTGTTTTTT | GTTTTTATTT | 1050 |
| TTATTTTAT | TTTTATTTT | ATTTTATTTT | ATTTTATGTT | TTTGTGTTTT | 1100 |
| TTGTTATTTT | GTTATTTATT | AAGCACAACA | CACAGAAAGCA | AACCTTAAT | 1150 |
| TAAACACACT | TATTTAAAA | TAAACACACT | AAGCAAGCACA | AACAATAAA | 1200 |
| GATAAAGAAA | GCCTTATATA | TTTATAGGCT | TTTTTATAAT | TTAACCTTACA | 1250 |
| GCTGCTTTTA | AGCAAGTTCT | GTTAGTTTTG | CCTGTTTTTT | AACCCCAAAC | 1300 |
| ATTTATAGTA | ACTTGTAAAG | GGTTTCACTG | TAATGTTCCA | TAGCAATACT | 1350 |
| TCCTTTAGCA | TTAGGATTGC | TGGAGCTAAG | TATAGCAGCA | TACTCTTTCC | 1400 |
| CCCTCTTCAC | CTGATCTTCA | TTTATTTCAA | ATGCTTTTCT | TTTCAGCACA | 1450 |
| GTGCAAACTT | TTCTTAAGGC | TTCCCTGGTG | TCATACTTCT | TTGGGTGCGAT | 1500 |
| CCCGAGATCC | TTGTATTTTG | CATCCGATA | TATAGCCAAG | ACAACACTGA | 1550 |
| TCATCTCAAA | GCTATCAACT | GAAGCAATAA | GAGGTAAAGCT | ACCTCCAGC | 1600 |
| ATTATGGCAA | GCCTCACAGA | CCTTGCATCA | TCAAGAGGTA | ATCCATAGGC | 1650 |
| TTGAATCAAA | GGGTGGGAAG | CAATCTTAGA | TTTGATAGTA | TTGAGATTCT | 1700 |
| CAGAATTCC | 1709; | | | | |
| TAAACACACT | AAGCAAGCAC | AAACAATAAA | GATAAAGAAA | GCCTTATATA | 50 |
| TTTATAGGCT | TTTTTATAAT | TTAACCTTACA | GCTGCTTTTA | AGCAAGTTCT | 100 |
| GTTAGTTTTG | CCTGTTTTTT | AACCCCAAAC | ATTTATAGTA | ACTTGTAAAG | 150 |
| GGTTTCACTG | TAATGTTCCA | TAGCAATACT | TCCTTTAGCA | TTAGGATTGC | 200 |
| TGGAGCTAAG | TATAGCAGCA | TACTCTTTCC | CCCTCTTCAC | CTGATCTTCA | 250 |
| TTTATTTCAA | ATGCTTTTCT | TTTCAGCACA | GTGCAAACTT | TTCTTAAGGC | 300 |
| TTCCCTGGTG | TCATACTTCT | TTGGGTGCGAT | CCCGAGATCC | TTGTATTTTG | 350 |

CATCTGATA TATAGCCAAG ACAACACIGA TCATCTCAAA GCTATCAACT 400
 GAAGCAATAA GAGGTAAGGT ACCTCCAGC ATTATGGCAA GOCTACAGA 450
 GTTGGATCA TCAAGAGGTA ATCCATAGGC TTGACTCAA GGGTGGGAAG 500
 CAATGTTAGA TTGATAGTA TTGAGATTCT CAGAATTCC AGTTTOCTCA 550
 ACAAGSETGA CCGTATGAA GCTATCAAGC CTCTGAAGG TCATGTCAGT 600
 GGGTCCAATC CTGCTGAAG TTTCTTTTAT GGTAATTTTA CCAAAGTAA 650
 AATCGGTTTG CTAAATAACG TTCATTATGC TCTGACGATT CTTCAGGAAT 700
 GTCAGACATG AAATAATGCT CATCTTTTTG ATCTGGTCAA GGTTTTCCAG 750
 ACAAAGTGC TGAAGITGA ATGCTACCAG ATTCTGATCT TOCTCAAAC 800
 CAAGGTCTTT GCGTGTGTC AACAAAGCAA CAATGCTTC CTTAGTGAGC 850
 TTAACAT 858;
 AAATGCTCTT GCAGTGAAT CTCGTCTCAT GTTAGCAGAA AACACATCA 50
 TGCTAACTC TCAAGCTTTT GTCAAAGCTT CTACTGATTC TAATTTCAG 100
 CTGAGGCTCT GCTAAGGGT TOCAAAGGTT TTGAAGCAGA TTTCCATCA 150
 GAAATTGTTT AAGGTTGCAG GAGATGAAAC AAATAAAACA TTTTATTTAT 200
 CTATTGCTG CATTOCAAAC CATAACAGTG TTGAGACAGC TTTAAACATT 250
 ACTGTTATTT GCAAGCATCA GCTOCCAATT CGTAAATGTA AAATCCTTT 300
 TGAATTATCA ATGATGTTTT CTGATTTAAA GGAGCCTTAC AACATTATTC 350
 ATGATCCTTC ATATCCOCOA AGGATGTTTC ATGCTCTGCT TGAAACTCAC 400
 ACATCTTTTG CACAAGTTCT TTGCAACAAC TTGCAAGAAG ATGTGATCAT 450
 CTACACCTTG AACACCATG AGCTAACTCC TGGAAAGTTA GATTTAGGTG 500
 AAATAACTTT GAATTACAAT GAAGACGCT ACAAAGGAA ATATTTCCTT 550
 TCAAAAACAC TTGAATGCT TOCATCTAAC ATACAACTA TGCTTTATTT 600
 AGACAGCATC CAAATCCCTT COTGGAAGAT AGACTTTGCC AGGGGAGAAA 650
 TTAAATTTTC TCCACAATCT ATTTGAGTTG CAAAATCTTT GTTAAATCTT 700
 GATTTAAGCG GGATTAAAAA GAAAGAATCT AAGATTAGG AAGCATATGC 750
 TTCAGGATCA AAATGATCTT GCTGTGTCCA GCTTTTTCTA ATTATGTTAT 800
 GTTATTTTTC TTTCTTACT TATAATTATT TTTCTGTTTG TCATTTCTTT 850
 CAAATTOCTC CTGTCTAGTA GAAACCATAA AAACAAAAAT AAAAATAAAA 900
 TAAATCAAA ATAAAAATAA AATCAAAAAA TGAAATAAAA GCAACAAAAA 950
 AATTAAAAAA CAAAAACCA AAAAAGATCC CGAAAGGACA ATTTTGGOCA 1000
 AATTGGGGT TTGTTTTGT TTTTGTGTTT TTTGTTTTT GTTTTATTT 1050
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 TTGTTATTTT GTTATTTATT AAGCACAACA CACAGAAAGC AAATTTAAT 1150
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 TOCTTTAGCA TTAGGATTGC TGGAGCTAAG TATAGCAGCA TACTCTTCC 1400
 CCTCTTCAC CTGATCTTCA TTCAATTTCAA ATGCTTTTCT TTTGAGTACA 1450
 GTGCAAACTT TTCTAAGGC TTCCCTGGTG TCATCTTCT TTGGGTCCAT 1500
 CCGAGATCC TTGTATTTTG CATCCTGATA TATAGCCAAG ACAACACTGA 1550
 TCATCTCAAA GCTATCAACT GAAGCAATAA GAGGTAAGCT ACCTCCAGC 1600
 ATTATGGCAA GOCTACAGA CTTTGCATCA TCAAGAGGTA ATCCATAGGC 1650

TTGACTCAA GGGTGGGAAG CAATCTTAGA TTTGATAGTA TTGAGATTCT 1700
 CAGAATTCC AGTTTCCTCA ACAAGCCTGA CCTGATCAA GCTATCAAGC 1750
 CTTCTGAAGG TCATGTCAGT GGCCTCAATC CTGTCTGAAG TTTTCTTTAT 1800
 GGTAAATTTA CCAAAAGTAA AATCGCTTTG CTAAATAACC TTCATTATGC 1850
 TCTGACGATT CTTCAGGAAT GTCAGACATG AAATAATGCT CATCTTTTIG 1900
 ATGTGGTCAA GGTTTTCAG ACAAAAGTC TTGAAGTTGA ATGCTACCAG 1950
 ATTCTGATCT TCTCAAACT CAAGGCTTTT GCTTGTGTG ACAAAGCAA 2000
 CAATGCTTTC CTTAGTGAGC TTAACCAT 2028; end
 AGAGCAATTG GGTCATTTTT TATTTCTAAT CGAACTCAA CTAGCAAATC 50
 TCAGAACTGT AATAAGCACA AGAGCACAAG AGCCACAATG TCATCAGGTG 100
 TTTATGAATC CATCATTCAG ACAAGGGCTT CAGTTTGGGG ATCGACAGCA 150
 TCTGGTAAAT CCAATGGTGA TTTCTACTGG ATTTATGAGT TTCCAACGTG 200
 TTCTGCACTG GTTCAAACTC AGTTGTACTC TGATTGAGG AGCAAAAGTA 250
 GCTTGGGCTA CACTTCAAAA ATTGGTGATA TTCTGTCTGT AGAGGAGGAA 300
 ATTTTATCTC AGAAGGTTC TATCCAGTG TTTGATGATA TTGATTTAG 350
 CATCAATATC AATGATTTT TCTTGGCAAT TTCTGTGTGT TOCAACACAG 400
 TTAACACCAA TGGAGTGAAG CATCAGGGTC ATCTTAAAGT TCTTTCTCTT 450
 GOCCAATTGC ATCCCTTTGA AOCCTGTATG AGCAGGTGAG AGATTGCTAG 500
 CAGATTCCGG CTCCAAGAAG AAGATATAAT TOCTGATGAC AAATATATAT 550
 CTGCTGCTAA CAAGGGATCT CACTCTGTG TCAAAGAACA TACTTACAAA 600
 GTCGAAATGA GOCACAATCA GGCCTTAGGC AAAGTGAATG TTCTTTCTCC 650
 TAACAGAAAT GTTCATGAGT GCTCTGATAG TTTCAAACCA AATTTCACCC 700
 AGATCGAAAG TAATAACAGA ACTGTAAATT CTTTGTGAGT CAAATCTTTG 750
 CTGATGGCTA CAGAAAACAA CATTATGCT AACTCTCAAG CTTTGTGTA 800
 AGCTTCTACT GATTCTCAT TTAAGTTGAG CCTTGGCTG AGAATTCCAA 850
 AAGTTTIGAA GCAAATAGCC ATACAGAATC TCTTCAAGTT TGCAGGAGAC 900
 GAAACCGTAA AAAGTTTCTA TTGTGCTATT GCATGCATCC CAAATCACAA 950
 CAGTGTGGAA ACAGCTTTAA ATGTCACTGT TATATGTAGA CATCAGCTTC 1000
 CAATCCCTAA GTCCAAAGCT CCTTTTGAAT TATCAATGAT TTTCTCCGAT 1050
 CTGAAAGAGC CTTACAACAC TGTGCATGAT CCTTCATATC CTCAAAGGAT 1100
 TGTTCATGCT TTGCTTGAGA CTCACACTTC CTTTGCACAA GTTCTCTGCA 1150
 ACAAGCTGCA AGAAGATGTG ATCATATATA CTATAAACAG CCTGAACTA 1200
 ACCCCAGCTA AGCTGGATCT AGGTGAAAGA AOCCTGAAC TACAGTGAAGA 1250
 TGCTTGAAG AAGAAGTATT TTCTTTCAA AACACTCGAA TGCTTGCCAG 1300
 TAAATGTGCA GACTATGTCT TATTTGGATA GCATOCAGT TCCTTCATGG 1350
 AAGATAGACT TTGCCAGAGG AGAGATCAGA ATCTOCCCTC AATCTACTCC 1400
 TATTGCAAGA TCTTTGCTCA AGCTGGATTT GAGCAAGATC AAGGAAAAGA 1450
 AGTCTTGAC TTGGGAAACA TCAGCTATG ATCTAGAATA AAAGTGGCTC 1500
 ATACTACTCT AAGTAGTATT TGTCAACTTG CTATCCTTT ATGTGTGTTA 1550
 TTTCTTTTAA ATCTAAAGTA AGTTAGATTC AAGTAGTTTA GTATGCTATA 1600
 GCATTATTAC AAAAAATACA AAAAAATACA AAAAAATACA AAAAAATATA 1650
 AAAACCCAAA AAGATCCCA AAGGGACGAT TTGGTTGATT TACTCTGTTT 1700
 TAGGCTTATC TAAGCTGCTT TTGTTTGAGC AAAATAACAT TGTAACATGC 1750
 AATAACTGGA ATTTAAAGTC CTAAAAGAAG TTTCAAAGGA CAGCTTAGCC 1800

AAAATTGGTT TTTGTTTTTG TTTTTTTGTT TTTGTTTTTT TTGTTTTTATT 1850
 TTTATTTTTA GTTATTTTTT TGTTTTTGTT ATTTTATTTT TTATTTTATT 1900
 TTCTTTTATT TTATTTATAT ATATATCAAA CACAATCCAC ACAAATAATT 1950
 TTAATTTCAA ACATTTTACT GATTTAACAC ACTTAGCCIG ACTTTATCAC 2000
 ACTTAACACG CTTAGTTAGG CTTTAACACA CTGAACGAA TTAAACACA 2050
 CTTAGTATTA TGCATGCTTT AATTAAACACA CTTTAATAAT ATGCATCTCT 2100
 GAATCAGCCT TAAAGAAGCT TTTATGCAAC ACCAGCAATC TTGGCCTCTT 2150
 TCTTAACCTC AAACATTTC AAGAATTGT CAAGATTATC ACTGTAAATAG 2200
 TCCATAGCAA TGCCTTCCCT AGCATTGGGA TTGCAAGAAC TAAGTATCTT 2250
 GGCATATTCT TCCCTTTGT TATCTGIGC ATCATCCATT GTAAATCCCT 2300
 TGCTTTAAG CACTGTGCAA ACCTTCCCA GAGCTTCCCT AGTGTGTGAC 2350
 TTAGTTGGTT CAATCCCTAA CTCCTGTGAC TTTCATCTT GATATATGGC 2400
 AAGAACAACA CTGATCATCT CGAAGCTGTC AACAGAAGCA ATGAGAGGGA 2450
 TAGTACCTCC AAGCATTTATA GCAAGTCTCA CAGATTTTGC ATCTGCCAGA 2500
 GGCAGCCCGT AAGCTTGGAC CAAAGGGTGG GAGGCAATTT TTGCTTTGAT 2550
 AATAGCAAGA TTCTCATTTT TTGCAGTCTC TTCTATGAGC TTCACTCTTA 2600
 TCATGCTATC AAGCCTCCTG AAAGTCATAT CCTTAGCTCC AACTCTTTCA 2650
 GAATTTTCT TTATGTGAC CTTACCAAAA GTAAATCAC TTTGGTTTAC 2700
 AACTTTCATA ATGCCTTGGC GATTCTTCAA GAAAGTCAA CATGAAGIGA 2750
 TACTCATTTT CTTAATCAGG TCAAGATTTT CCGACAGAA AGTCTTAAAG 2800
 TTGAATGCGA CCTGGTTCTG GTCTTCTTCA AACTCAACAT CTGCAGATTG 2850
 AGTTAAAAGA GAGACAATGT TTTCTTTTGT GAGCTTGACC TTAGACATGG 2900
 TGGCAGTTTA GATCTAGACC TTCTCTGAGA GATAAGATTC AAGGTGAGAA 2950
 AGTGCAACAC TGTAGACCGC GGTCGTTACT TATCCTGTTA ATGTGATGAT 3000
 TTGTATTGCT GAGTATTAGG TTTTGAATA AAATTGACAC AATTGCTCT 3049

2. A plant susceptible to infection by *Tospoviruses* which has a transgene inserted into its genome to render it resistant to infection by *Tospoviruses*, said transgene being selected from the group consisting of the nucleoprotein gene of TSWV-BL, TSWV-10W, INSV-LI, TSWV-B, a *Tospovirus*, said transgene consisting of partial or full length nucleoprotein gene sequences from TSWV-BL, TSWV-10W, TSWV-B, INSV-Beg and INSV-LI, the translatable or untranslatable sequences of said nucleoprotein gene sequences, and the sense or antisense sequences of said nucleoprotein gene sequences.

3. A method for providing a host plant with resistance to infection by *Tospoviruses* which comprises inserting a transgene into the host plant which gene is selected from the nucleoprotein gene of TSWV-BL, TSWV-10W, INSV-Beg, INSV-LI, TSWV-B, or mixtures of nucleotide sequences taken from the nucleoprotein gene.

ADD A7